

AMENDMENTS TO THE CLAIMS

- 1.-17. (Canceled)
18. (New) A computer-implemented method, comprising:
receiving from an application program a call to a method to initiate a variable;
creating and storing a link of the variable to first data describing a first widget of a graphical user interface;
based on the first data, displaying, on a computer display, a value of the variable using the first widget in the graphical user interface;
receiving user input specifying a modification of the first widget;
changing the first data to second data describing a second widget that is different from the first widget;
based on the second data, displaying the second widget in the graphical user interface in place of the first widget, and displaying the value of the variable using the second widget in the graphical user interface.
19. (New) The method of claim 18, wherein the first data comprises a first extensible markup language (XML) representation of the variable and the first widget, wherein the second data comprises a second XML representation of the variable and the second widget, and wherein the changing comprises transforming the first XML representation into the second XML representation using an extensible stylesheet language (XSL) transformation (XSLT).
20. (New) The method of claim 18, wherein the receiving, changing and displaying are performed without sending any messages to the application program.
21. (New) The method of claim 18, wherein the call comprises a data type of the variable, and wherein the first widget comprises a default widget that is associated with the data type of the variable.

22. (New) The method of claim 18, further comprising:
receiving second user input specifying adding a new button to the first widget;
changing the first data to the second data by including new data describing the new
button;
displaying the second widget in the graphical user interface in place of the first widget
and including the new button.
23. (New) The method of claim of claim 18, further comprising:
receiving second user input specifying adding a new attribute value for the first widget;
changing the first data to the second data by including new data describing the new
attribute value;
displaying the second widget in the graphical user interface in place of the first widget
and including a new attribute based on the new attribute value.
24. (New) The method of claim 18, wherein the first widget is a text box displaying an
integer value and the second widget is a slider.
25. (New) The method of claim 18, further comprising:
receiving second user input specifying recording information about changes to the value
of the variable;
storing information identifying the variable, the value, and a first time at which the value
was changed;
receiving third user input specifying replaying the recorded information at a second time;
simulating execution of movements of a pointer in the display using the recorded
information to result in changing the variable to the value at the second time.
26. (New) The method of claim 25, wherein the receiving the third user input and the
simulating are performed when a state of the graphical user interface is different at the
second time than at the first time.

27. (New) The method of claim 18, further comprising automatically recalculating one or more display coordinates and sizes for the second widget as part of the changing and displaying.
28. (New) The method of claim 19, wherein the XSLT defines one or more rules for conversion of attributes of the first widget.
29. (New) The method of claim 19, further comprising receiving a new XSLT during a run time of the application program and replacing the XSLT with the new XSLT during the run time, wherein the new XSLT defines one or more new rules for conversion of attributes of the first widget.
30. (New) The method of claim 18, further comprising:
at a run time of the application program:
receiving third data describing a new third widget;
receiving second user input specifying converting the first widget to the third widget;
changing the link to result in linking the variable to the third data;
displaying the third widget in the graphical user interface in place of the first widget.
31. (New) A computer apparatus, comprising:
means for receiving from an application program a call to a method to initiate a variable;
means for creating and storing a link of the variable to first data describing a first widget of a graphical user interface;
means for displaying on a computer display, based on the first data, a value of the variable using the first widget in the graphical user interface;
means for receiving user input specifying a modification of the first widget;
means for changing the first data to second data describing a second widget that is different from the first widget;
means for displaying, based on the second data, the second widget in the graphical user interface in place of the first widget, and for displaying the value of the variable using the second widget in the graphical user interface.

32. (New) The apparatus of claim 31, further comprising:
means for receiving second user input specifying adding a new button to the first widget;
means for changing the first data to the second data by including new data describing the
new button;
means for displaying the second widget in the graphical user interface in place of the first
widget and including the new button.
33. (New) The apparatus of claim 31, further comprising:
means for receiving second user input specifying adding a new attribute value for the first
widget;
means for changing the first data to the second data by including new data describing the
new attribute value;
means for displaying the second widget in the graphical user interface in place of the first
widget and including a new attribute based on the new attribute value.
34. (New) The apparatus of claim 31, further comprising means operable at a run time of the
application program for receiving third data describing a new third widget, receiving
second user input specifying converting the first widget to the third widget, for changing
the link to result in linking the variable to the third data, and for displaying the third
widget in the graphical user interface in place of the first widget.
35. (New) A computer-implemented method, comprising:
receiving from an application program a call to a constructor method to initiate a variable;
creating and storing a link of the variable to first XML data describing a first widget of a
graphical user interface;
based on the first XML data, displaying, on a computer display, a value of the variable
using the first widget in the graphical user interface;
receiving user input specifying a modification of the first widget;

changing the first XML data to second XML data describing a second widget that is different from the first widget, using an extensible stylesheet language transformation (XSLT) that receives the first XML data as input and generates the second XML data as output;
based on the second XML data, displaying the second widget in the graphical user interface in place of the first widget, and displaying the value of the variable using the second widget in the graphical user interface;
wherein the receiving, creating, changing and displaying are performed without sending any messages to the application program.

36. (New) The method of claim 35, further comprising:
at a run time of the application program:
receiving third XML data describing a new third widget;
receiving second user input specifying converting the first widget to the third widget;
changing the link to result in linking the variable to the third XML data;
displaying the third widget in the graphical user interface in place of the first widget.
37. (New) The method of claim 35, further comprising:
receiving second user input specifying adding a new button to the first widget;
changing the first XML data to the second XML data by including new data describing the new button;
displaying the second widget in the graphical user interface in place of the first widget and including the new button.